Ergonomics

BRIEF

Policy Summary
The Ergonomics Program at Lawrence Berkeley National Laboratory (Berkeley Lab) assists all divisions in identifying, preventing, and controlling ergonomic-related risk factors. The goal of the Ergonomics Program is to optimize work practices, software, furniture, tools, and equipment used at Berkeley Lab to increase employee effectiveness and minimize employee exposure to risk factors for work-related musculoskeletal disorders.

Who Should Read This Policy
All Berkeley Lab employees, affiliates, and Berkeley Lab-supervised subcontractors

To Read the Full Policy, Go To:
The POLICY tab on this wiki page

To Read the ES&H Program Details, Go To:
http://www.lbl.gov/ehs/pub3000/CH17.html

Contact Information
Ergo Team
Environment, Health, and Safety (EHS) Division
MMAlexandre@lbl.gov or ergo@lbl.gov

POLICY

A. Purpose
The Ergonomics Program facilitates work performed at Lawrence Berkeley National Laboratory (Berkeley Lab) by taking a systematic view of people, their work goals, and their work space, software, and equipment to help create an environment in which people can perform their work safely and effectively.

B. Persons Affected
All Berkeley Lab employees, affiliates, and Berkeley Lab-supervised subcontractors

C. Exceptions
None
D. Policy Statement

The Ergonomics Program at Berkeley Lab assists all Laboratory divisions in identifying, preventing, and controlling ergonomic-related risk factors. The Ergonomics Program strives to be a value-added program that is woven into the safety culture fabric at Berkeley Lab. The goal of the Ergonomics Program is to optimize work practices, software, furniture, tools, and equipment used at Berkeley Lab to increase employee effectiveness and to minimize employee exposure to risk factors for work-related musculoskeletal disorders. The Ergonomics Program operates at three levels to achieve these goals:

1. **Prevention:** Work with designers, project managers, vendors, procurement representatives, and end users to ensure that the tools, equipment, work processes, and computer software are user-friendly and do not present unnecessary risks such as repetition, high force, awkward postures, or wasted time and motion. The emphasis here is designing out risks before investing in new tools or implementing new processes.
   a. **Ergo Control Measures:** Provide personnel with general information on understanding and eliminating risk factors, other control measures, and the value of early reporting and intervention (Work Process A).
   b. **Office, Lab, and Industrial Ergo:** Provide personnel with general controls for the risks of their specific work (Work Process B).

2. **Customer Care:** Work with individual employees and supervisors to minimize employee discomfort; make physical and work process changes to mitigate risk factors for musculoskeletal problems; and to accommodate people’s sizes and work styles to allow them to work as comfortably and effectively as possible.
   a. **Ergo Evaluations:** Describe the process for requesting and receiving an ergonomic evaluation of the work area (Work Process C).
   b. **Training:** Provides ergonomic training resources (Work Process D).
   c. **Support for Off-Site/Remote Computer Users:** Describes ergonomic support services for personnel using computers off-site (Work Process E).

3. **Alignment:** Reach out to science and Operations divisions/departments faced with challenging ergonomic issues that might impact the health and safety of their employees (e.g., injury-prone tasks, complex material-handling jobs, unique equipment integration, and new laboratories). Work with these divisions and their Safety Coordinators to ensure ergonomic program elements are in place, with emphasis on building self-reliance, to mitigate their ergo issues at a local level.
   a. **Resources:** A list of other ergonomic resources available to Berkeley Lab personnel (Work Process F).

E. Roles and Responsibilities

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<tr>
<th>Role</th>
<th>Responsibilities</th>
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| Division directors            | • Ensure that the work performed by their division is planned and executed to minimize employees’ exposure to hazards, including those related to ergonomics.  
• Ensure that the division fully participates in those elements of the Berkeley Lab Ergonomics Program affecting that division’s staff.  
• Ensure that managers, supervisors, and work leads address ergonomic hazards as they perform routine safety walk-arounds.  
• Work with their Division Safety Coordinator to develop and implement a division-wide Ergonomics Program with emphasis on self-reliance. |
| Managers, supervisors, and work leads | • Conduct safety walk-arounds and self-assessments that include observation of ergonomic practices, workplace conditions, and monitoring of employee comfort status.  
• Contact the Ergo Team for assistance with any concerns regarding ergonomic issues.  
• Ensure that employees complete ergonomic training for computer users, laboratory tasks, and manual material handling as needed.  
• Work with employees whose online ergo training results (EHS0058, Ergo Self-Assessment Refresher, and EHS0059, Ergo Self-Assessment for Computer Users,) indicate that they are in moderate or high risk, and implement corrective actions in their Remedy Interactive Risk profile to lower their risk level.  
• Specify and acquire necessary furniture, tools, and accessories that support the types of tasks they supervise and that minimize awkward postures and/or motions.  
• Frequently encourage staff to take hourly rest breaks or to periodically change work activities to minimize repetition and static working postures.  
• Frequently ask staff if they are experiencing any work-related discomfort and encourage early reporting.  
• Request a discomfort evaluation in the Ergo Database for any employee who is experiencing discomfort.  
• During the discomfort evaluation and the ensuing problem-solving process, check in with the employee to make sure changes are producing desirable outcomes and that the employee is making steady progress. If discomfort is not subsiding several weeks after ergonomic changes are in place, send the employee to Health Services.  
• Request preventive evaluations for employees whose risk exposures might be amplified due to new projects, cyclical spikes in workloads, new technologies, or new work settings.  
• Access the Ergo Database for ergonomic evaluation findings, action items, and information after their employees’ ergonomic evaluation, and implement recommendations in a timely manner.  
• Implement actions assigned to a supervisor and monitor employees’ compliance with recommendations from ergo evaluations, including habit/behavioral changes.  
• Ensure work groups with non-computer ergonomic concerns (e.g., those who work in biological and other laboratory settings, custodial services, and manual material handling) request that the Ergo Team provide ergonomic training, review, and/or evaluations focused on such areas, as needed.  
• Support and monitor employees with ergo-related injuries to ensure they are comfortable and safe. Further information regarding injury review and reporting can be found in the Environment, Safety & Health (ES&H Manual), Section 5.1. Incident Reviewing and Reporting. |
Employees

- Complete required ergonomics training and the Ergo Self-Assessment for Computer Users and WorkSmart material-handling training (as required).
- Properly utilize tools, equipment, and accessories, and perform work safely.
- Promptly notify your supervisor of the presence of ergonomic risk factors or early signs of musculoskeletal discomfort, even if you are not sure if the discomfort is work-related. Early reporting is essential to reduce the likelihood of developing an injury.
- Request an ergonomic evaluation in the Ergo Database if you are concerned by the presence of ergonomic risk factors or discomfort.
- With assistance from your supervisor and Division Safety Coordinator, implement ergo evaluation recommendations in a timely manner.
- Report to the Health Services medical clinic for assistance if discomfort/symptoms are severe or if you are not making slow and steady progress in reducing discomfort several weeks after ergonomic changes are in place.

Division Safety Coordinators (DSCs)

- Administer the division’s ES&H program, including ergonomics. DSCs may also be Division Ergo Advocates and/or work closely with Division Ergo Advocates. Refer to Section 1.7, Role and Responsibilities, in the General ES&H Manual, Requirements, Responsibilities, and Work Practices program of the ES&H Manual for further details.
- Work with supervisors and the Ergo Team to triage employees’ ergonomic risk exposures and discomfort evaluations to facilitate early intervention.
- Perform ergonomic walk-throughs to proactively identify ergonomic problems and/or employee discomfort cases.
- Develop division ergonomics program elements with emphasis on the risk exposures that have the most impact on staff.
- Manage a small inventory of ergonomic “quick fix” products to reduce response time.
- Select one or more Ergo Advocates to collaborate with the DSC and the Ergo Team to provide effective coverage of ergonomic issues at multiple locations within each division.

Division Ergo Advocates

- Act as a resource to employees, managers, and DSCs for ergonomic-related concerns.
- Reinforce good work practices to reduce at-risk behaviors.
- Access the results of employee self-evaluations, such as Remedy Interactive, and follow up with computer users who are at moderate risk (yellow zone) and high risk (red zone).
- Perform preventive ergo evaluations for new hires, moves, new computer equipment or processes, and moderate- and high-risk Remedy Interactive profiles.
- Enter ergonomic evaluation results into the online Ergo Database in a timely manner, and close out ergo evaluations when action items are completed and the employee is satisfied with the results.
- Assist with move evaluations and ergonomic sweeps as indicated.
- Refer evaluations involving employee discomfort or complex situations to the Ergo Team.
- Monitor the implementation and effectiveness of ergonomic interventions.
- Be familiar with relevant resources, including the Ergonomics @LBNL website, the Ergo Catalogs web page, the Ergo Database, the Remedy Interactive system, and RISGuard k-reminder software.

Ergonomist

- Monitors employee risk profiles in Remedy Interactive and alerts supervisors, Ergo Advocates, and employees to make improvements as needed to lower risk levels.
- Performs discomfort evaluations to mitigate ergonomic problems and to provide symptom control for employees.
- Works closely with Health Services staff to address first aid or recordable-injury cases to understand the full scope of an employee’s condition, to glean advice on the possible ergonomic solution, and to help case-manage the employee until issues subside.
- Provides ergonomic fittings of chairs and desks, and uses tests of ergonomic input devices to ensure they produce desirable health outcomes.
- Adjusts or modifies furniture, equipment, and/or technology to ensure desired health outcomes.
- Provides administrative and behavioral techniques, such as rest breaks, keyboard shortcuts, speech recognition, writing recognition, etc., to mitigate risks.
- Works with divisions on a project basis to do systematic problem-solving on ergo issues that might impact the health and safety of employees.
- Assists the Division Ergo Advocates with training and consultations on an ongoing basis.
- Supports Division Ergo Advocates and DSCs in maintaining up-to-date knowledge of the science and art of ergonomics through their participation in professional communications and conferences.

Health Services Group

- Maintains a medical management program that includes evaluation of employees with symptoms of work-related musculoskeletal disorders.
  - Vision is an important component of ergonomics. Some computer users who wear corrective lenses/contacts should wear lenses designed specifically for computer use.
  - Contact Health Services, ext. 6266, regarding eligibility requirements for computer glasses.
  - Refer to the Health Services program in the ES&H Manual for further details.

Procurement & Property Management Department, Office of the Chief Financial Officer

- Prepares purchase requisitions to acquire furniture, equipment, and accessories. The buyers in this department monitor the types of products being ordered to ensure they meet ergonomic criteria specified by the EHS Division.

Facilities Division

- Integrates ergonomic considerations into workspace planning, workstation design, building modifications, and move coordination with the goal of accommodating employees of various sizes and job functions while facilitating changes in technology and work processes over time.

F. Definitions/Acronyms

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<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tr>
<td>Discomfort evaluation</td>
<td>Performed by Ergo Team. Requested to address the needs of employees with discomfort.</td>
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<tr>
<td>Ergonomics</td>
<td>The study of human interaction with tools, equipment, software, work processes, and the environment in which people function. The goal is to fit the job to the person. Ergonomics recognizes the capabilities, differences, and limitations of individuals, and adjusts the tools, work process, or work environment accordingly.</td>
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<tr>
<td>Ergonomic evaluation</td>
<td>An ergonomic evaluation (ergo eval) is performed by the Ergo Team to observe a worker’s workstation, workplace, and/or behaviors (e.g., body mechanics) to identify risk factors</td>
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<td>Manual material handling</td>
<td>Materials being moved directly by people. Includes lifting, carrying, pushing, pulling, reaching, bending, and crouching to move and handle objects manually.</td>
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<td>Move evaluation</td>
<td>Performed by the Ergo Team. Can be requested when an office move occurs and an employee wants to ensure the new set-up is optimal and safe.</td>
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<td>Preventive evaluation</td>
<td>Commonly performed by Ergo Advocates. Can be requested to proactively address ergonomic issues for new or existing employees.</td>
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<td>Risk factors</td>
<td>Conditions that contribute to the risk of developing a disorder. In the case of work-related musculoskeletal disorders, these include awkward postures, highly repetitive activities, the application of high forces, static positions (maintained over long periods of time), exposure to hand-arm or whole-body vibration, and exposure of hands or feet to temperatures cold enough to cause discomfort.</td>
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<tr>
<td>Work-related musculoskeletal disorder</td>
<td>The term used for health disorders arising from biomechanical stresses on the body, including those of a cumulative nature. Work-related musculoskeletal disorders are disorders of the muscles, tendons, and/or nerves that develop from or are aggravated by repeated or sustained exertions on the body. Work-related musculoskeletal disorders are also referred to as cumulative trauma disorders, repetitive motion injuries, repetitive strain injuries, repetitive trauma disorders, and overuse injuries.</td>
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### G. Recordkeeping Requirements

None

### H. Implementing Documents

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<td>Ergonomics</td>
<td>Program</td>
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<tr>
<td>07.07.012.002</td>
<td>Work Process A. Ergo Control Measures</td>
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### I. Contact Information

Ergo Team  
EHS Division  
MMAlexandre@lbl.gov or ergo@lbl.gov

### J. Revision History

<table>
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<th>Date</th>
<th>Revision</th>
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<th>Revision Description</th>
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<td>1/2/2012</td>
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<td>I. Janowitz</td>
<td>RefORMAT FOR WIKI (BRIEF)</td>
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<td>10/7/2013</td>
<td>1</td>
<td>M. Alexandre</td>
<td>REWRITE FOR WIKI (POLICY), NEW PROGRAM IMPLEMENTED</td>
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<td>12/4/2018</td>
<td>1.1</td>
<td>M. Alexandre</td>
<td>UPDATE ACGIH TO 2016</td>
<td>Source Requirements Documents</td>
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Source Requirements Documents

- 10 CFR 851, Worker Safety and Health Program
  - 10 CFR 851.10(a)(1), General Requirements
  - 10 CFR 851.11, Development and Approval of Worker Safety and Health Program
- American Conference of Governmental Industrial Hygienists (ACGIH), "Threshold Limit Values for Physical Agents," *Ergonomics*, Publication #7DOC-734, 2016

Implementing Documents

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